

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellant : Alan L. Billings
Application No. : 10/720,489
Title : METAL SPIRAL FABRICS FOR CORRUGATOR MACHINES
Filed : November 24, 2003
Examiner : Charles, Marcus
Art Unit : 3682
Confirmation No. : 4548

745 Fifth Avenue
New York, NY 10151

September 5, 2008

REPLY BRIEF OF APPELLANT

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is being filed in response to the Examiner's Answer mailed July 9, 2008, setting a two-month period for response, up to and including September 9, 2008. The Commissioner is authorized to charge any additional fee, or credit any overpayment, to Deposit Account No. 50-0320.

REAL PARTY IN INTEREST

The real party in interest is Albany International Corp., 1373 Broadway, Albany, New York 12204, to which Appellant has assigned all interest in, to and under this application,

by virtue of an assignment recorded on June 18, 2004 at reel 015492, frame 0112 of the assignment records of the Patent and Trademark Office.

RELATED APPEALS AND INTERFERENCES

Upon information and belief, the undersigned attorney does not believe that there is any appeal or interference that will directly affect, be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF THE CLAIMS

The Application was filed with claims 1-7 on November 24, 2003, and assigned Application Serial No. 10/720,489.

In a first Office Action dated August 7, 2006, the Examiner rejected claims 4 and 6 under 35 U.S.C. §112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention. In addition, claims 1-2 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent 4,649,074 to Borel. Claims 1-2 were rejected under 35 U.S.C. §102(e) as allegedly anticipated by U.S. Patent Application Publication No. 2004/0033856 to Levin (hereinafter merely "Levin"). Claims 2 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Borel in view of JP 10-29252. Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Levin in view of U.S. Patent No. 3,263,799 to Bascom.

In response to this first Office Action, Appellant filed an Amendment on November 7, 2006 amending claims 2-3, canceling claims 4 and 6 and arguing against the claim rejections.

The Examiner then issued a further Non-Final Office Action dated February 5, 2007, in which the Examiner rejected claims 1 and 7 under 35 U.S.C. §102(b) as allegedly anticipated by Levin. In addition, claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,932,756 to Franchi (hereinafter merely "Franchi") in view of JP 4-24298. Claims 2 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Levin in view of JP 10-29252. Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Levin in view of U.S. Patent No. 3,263,799 to Bascom.

In response to this Non-Final Office Action, Appellant filed a further Amendment on May 4, 2007 amending claims 1 and 5, adding new claims 8-12 and arguing against the claim rejections.

The Examiner then issued a Final Office Action dated August 9, 2007, in which the Examiner rejected claims 1, 5 and 10 under 35 U.S.C. §103(a) as allegedly unpatentable over Franchi in view of JP 4-24298 and further in view of JP 10-29252. In addition, claims 3, 8 and 11 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Franchi in view of JP 10-29252 and further in view of JP 10-29252 and further in view of U.S. Patent No. 3,263,799 to Bascom. Claims 7, 9 and 12 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Franchi in view of JP 10-29252 and further in view of JP 10-29252 and further in view of U.S. Patent No. 5, 514,456 to Lefferts.

In response to this Final Office Action, Appellant filed a response on October 31, 2007, arguing against the claim rejections.

An advisory action was issued on November 27, 2007 stating that the Appellant's arguments do not place the application in condition for allowance.

In response to this Advisory Action, Appellant filed a Notice of Appeal with a Pre-Appeal Brief Request for Review on January 9, 2008 appealing the final rejection. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed April 1, 2008, maintaining the rejections in the Final Office Action. This Appeal Brief was filed pursuant to the Notice of Appeal filed on May 1, 2008. The Examiner's Answer in response to the Appeal brief was issued on July 9, 2008.

This Reply Brief is being filed in response to the Examiner's Answer mailed July 9, 2008.

Accordingly, the status of the claims may be summarized as follows:

Claims allowed: None.

Claims Objected to: None.

Claims Rejected: 1, 3, 5 and 7-12

Claims Appealed: 1, 3, 5 and 7-12

Claims Canceled: 2, 4 and 6.

Rejected claims 1, 3, 5 and 7-12 are set forth in the Appendix attached hereto.

Appellant is appealing the Final Rejection of claims 1, 3, 5 and 7-12, which constitute all of the currently pending claims in this application.

STATUS OF THE AMENDMENTS

Appellant believes that all the submitted Amendments have been entered.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a belt for use on a corrugator machine (50) in the manufacture of corrugated packaging board, the belt comprising an endless spiral-link base (1), the base (1) defining a top surface and a bottom surface and including a plurality of metal spirals (2, 4), each spiral (2, 4) defining an internal space (6, 8), wherein the spirals (2, 4) are interconnected by a series of parallel pintles (3) extending through the internal spaces (6, 8) of adjacent spirals (2, 4), wherein the belt is a singlefacer belt. *Instant Application*, paragraphs [0021]-[0032] and Figs. 2, 3, 4A and 4B.

Independent claim 5 is directed to a belt for use on a corrugator machine (50) in the manufacture of corrugated packaging board, the belt comprising an endless spiral-link base (1), the base (1) defining a top surface and a bottom surface and including a plurality of metal spirals (2, 4), each spiral (2, 4) defining an internal space (6, 8), wherein the spirals (2, 4) are interconnected by a series of parallel pintles (3) extending through the internal spaces (6, 8) of adjacent spirals (2, 4), wherein the belt is a doublebacker belt. *Instant Application*, paragraphs [0021]-[0032] and Figs. 2, 3, 4A and 4B.

Independent claim 10 is directed to a singlefacer or doublebacker belt comprising an endless spiral-link base (1) including a plurality of metal spirals (2, 4) interconnected by a series of parallel pintles (3) extending through internal spaces (6, 8) defined by adjacent spirals. *Instant Application*, paragraphs [0021]-[0032] and Figs. 2, 3, 4A and 4B.

GROUND FOR REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 5 and 10 are unpatentable under 35 U.S.C. §103(a) in view of Franchi in view of JP 4-24298 (hereinafter merely “JP ‘298”) and further in view of JP 10-29252 (hereinafter merely “JP ‘252”).

Whether claims 3, 8 and 11 are unpatentable under 35 U.S.C. §103(a) in view of Franchi in view of JP ‘298 and further in view of JP ‘252 and further in view of U.S. Patent No. 3,263,799 to Bascom (hereinafter merely “Bascom”). Appellant notes that the Answer’s Statement of the Grounds of Rejection identified JP ‘298 as JP ‘252; Appellant understands that the identification was in error and proceeds on that basis.

Whether claims 7, 9 and 12 are unpatentable under 35 U.S.C. §103(a) in view of Franchi in view of JP ‘298 and further in view of JP ‘252 and further in view of U.S. Patent No. 5, 514,456 to Lefferts (hereinafter merely “Lefferts”). Appellant notes that the Answer’s Statement of the Grounds of Rejection identified JP ‘298 as JP ‘252; Appellant understands that the identification was in error and proceeds on that basis.

ARGUMENTS

I. REJECTIONS UNDER 35 U.S.C. §103

Claims 1, 5, and 10 have been rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,932,756 to Franchi (“Franchi”) over Japanese Patent 4-24298 (“JP ‘298”) and further in view of Japanese Patent No. 10-29252 (“JP ‘252”). Claims 3, 8 and 11 have been rejected under 35 U.S.C. §103(a) over Franchi in view of JP ‘298 further in view of JP ‘252 and further still in view of U.S. Patent No. 3,263,799 to Bascom (“Bascom”). Claims 7, 9, and 12 were rejected under 35 U.S.C. §103(a) over Franchi in view of JP ‘298 and further in view of JP ‘252 and further still in view of U.S. Patent No. 5,514,456 to Lefferts (“Lefferts”). For the reasons set forth in our Appeal Brief and as follows, Appellant traverses and requests reversal of the rejections.

a. Claims 1, 5 and 10 are patentable over Franchi in view of JP ‘298 and JP ‘252

Claims, 1, 5 and 10 are rejected under §103(a) over Franchi in view of JP ‘298 and JP ‘252. Claims 1, 5, and 10 are patentable over the above cited references for the reasons set forth in the Appeal Brief and as follows. Independent claims 1 and 5 each recite, inter alia:

**A belt for use on a corrugator machine in the
manufacture of corrugated packaging board, said belt
comprising:**

**an endless spiral link base, said base defining a
top surface and a bottom surface and including a plurality of
metal spirals, each spiral defining an internal space, wherein the
spirals are interconnected by a series of parallel pintles extending
through the internal spaces of adjacent spirals....**

Independent claim 1 further recites “wherein the belt is “**a singlefacer belt**,” and independent claim 5 further recites “wherein the belt is a “**doublebacker belt**.” Independent claim 10 recites: “A **singlefacer or doublebacker belt comprising: an endless spiral link base including a plurality of metal spirals**” Accordingly, the above recited claims recite a belt for use on a corrugator machine in the manufacture of corrugated packaging board, and in particular a singlefacer belt as well as a doublebacker belt.

i. *A Singlefacer Belt or Doublebacker Belt Implicitly and Expressly Recites Structure Than Cannot be Ignored*

At page 4 of the Examiner’s Answer, in response to Appellants arguments showing that Franchi discloses a corrugator belt whereas JP ‘298, in contrast, teaches a coated shoe press belt, the Examiner alleges that “the function of the belt is not a critical issue in relating to the claims.” Appellants disagree. “A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.” MPEP 2173.05 (g) citing *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004). The independent claims, over and above reciting a belt for use on a corrugator machine and the manufacture of corrugating packaging board, expressly recite that the belt is “a singlefacer belt” or “a doublebacker belt.” Because claims 1 and 5 recite “a belt for use on a corrugator machine and the manufacture of a corrugating packing board,” the recitations implicitly require a particular structure for the belts. For example, as explained at page 2, lines 3 to 14 of the present Application:

The belt experiences severe operating conditions. Because heat is used to vaporize moisture in the core paper, the belt operates in a high temperature environment. Further, the belt continually runs, albeit with the corrugated board sheet between, against the teeth on

the corrugating wall to develop the required bonding pressure between the core paper and the liner paper. Moreover, the belt must be flexible yet have lengthwise strength and widthwise rigidity sufficient to withstand wrinkling, which may cause the belt to drift undesirably from side to side.

An ordinarily skilled artisan would understand that the belt recited in the claims would need to have the appropriate structure to operate under the conditions above.

Moreover, as the claims recite that the belt is either a “singlefacer belt,” or a “doublebacker belt,” the belts expressly recite the corresponding structures indicating the types belts they are, i.e., that they are for use in the manufacture of corrugated paper board. Accordingly, the Examiner improperly dismisses the express structural claim limitations as a mere “function of the belt” and “not [] critical.” For the reasons further explained below, the improper failure to consider the above recited limitations further demonstrate why the Examiner’s combination of the above cited references is in error.

ii. Franchi Teaches Away from Constructing its Belt From Metal

The claims recite “a plurality of metal spirals.” For the reasons amply laid out in the Appeal Brief, the art of record, namely Franchi and JP ‘298, does not render the above recited limitation obvious. As explained therein, Franchi teaches away from a multi-spiral fabric composed of metal. As the Supreme Court said in *KSR International Code v. Teleflex, Inc.*, 550 U.S. ___, 82 USPQ2d at 1394 (2007) (citing *U.S. V. Adams*, 383 U.S. 39, 40): “[W]hen the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be non-obvious. As explained at MPEP 2143.01, “[W]here the teachings of two or more prior art references conflict, the Examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, **considering the degree to**

which one reference might actually discredit another. *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed Cir 1991).” Emphasis added.

Indeed, the Examiner’s Answer admits at page 4 that “Franchi is only concerned with weight, friction and energy consumed (see Col.2, lines 32-53).” Further, at column 1, lines 37-41 Franchi states:

Felt or conventional fabrics are also relatively heavy and therefore difficult to assemble onto the machine; the weight, combined with a high friction coefficient, of such materials increases the energy consumption of the machine [].

Franchi’s solution to this problem, as explained in the section cited by the Examiner above, is that “[t]he lighter weight of multispiral fabrics as compared with felt or conventional fabrics also makes for easier handling and for easier, faster assembly to the corrugating machine.”

Throughout its specification, and background, Franchi makes clear that the light weight of its belt is advantageous. Yet making such a belt of metal, as explained in the Appeal Brief, would increase the weight of Franchi’s belt. Thus, on this basis alone, Franchi discredits JP ‘298, and indeed demonstrates why an ordinary skilled artist would not find it obvious to make a singlefacer belt or doublefacer belt for use on a corrugator machine from a plurality of metal spirals.

iii. Franchi Provides its own Solutions for the Problems Articulated in JP ‘298

At page 4 of the Answer, the Examiner alleges that because “JP ‘298 is concerned about accuracy, load fluctuation (which is low with fabrics), durability and decreasing stretching (see translation, pages 4 and 5),” JP ‘298 provides an alternative reason to modify Franchi’s belt with metal spirals. The alleged reason is to add strength to Franchi’s belt. However, an ordinarily skilled artisan would not look outside Franchi to JP ‘298 for this reason

as it is the weight, difficult assembly, and the expense of the increased energy consumption that Franchi identifies as a problem for fabrics. See column 1, lines 37-46 of Franchi.

Moreover, Franchi provides its own solution for each of the above recited “reasons” for the combination. Regarding accuracy, Franchi states at column 2, lines 44 to 46 that its multispiral fabric is “sufficient to ensure correct conveyance of the cardboard in direct contact with the multispiral fabric.” As for durability and decreasing stretching, column 3, lines 7-11 of Franchi states:

The multispiral mat is also of considerable dimensional stability, which eliminates any risk of excessive in-service stretching or shrinking of the supporting belt which might impair operation of the corrugating machine and the quality of the finished cardboard.

At column 3, lines 12-17 Franchi states:

Finally, the multispiral mat is perfectly homogenous with no variations in thickness or physical-mechanical characteristics at the joints, which are even with the rest of the surface of the mat, thus preventing any marked impressions or unevenness in the finished cardboard.

The above recited advantages are derived from Franchi’s multispiral mat. JP’298, on the other hand states at page 5:

[T]he purpose of this invention is to supply an endless belt for papermaking, which has suitable flexibility, elongates very little, is easy to be made uniform in terms of thickness, is easy to be made endless, is easy to adjust in terms of dimensions, and also has excellent durability.

An ordinarily skilled artisan would not have any reason to go outside Franchi to obtain the advantages articulated in JP ‘298 as **the same advantages are already achieved in Franchi itself**. Indeed, JP ‘298’s advantages are not derived from the use of metal, but because of its

netted material of multiple spiral wires. Assuming for the sake of argument that metal “adds strength,” Franchi’s warnings against increasing the weight of fabrics discredits the use of metal as a substitute.

In short, an ordinarily skilled artisan would not consider using the netted material disclosed in JP ‘298 to modify the multispiral fabric in Franchi because (a) Franchi provides its own solution to the problems identified in JP’s ‘298 via a multispiral fabric and, (b) the use of metal would add weight to Franchi’s belt, which Franchi identifies as a problem. Thus JP ‘298 does not suggest a solution to Franchi that Franchi does not solve itself, and Franchi implicitly discourages and teaches away from making its own belt heavier.

For reasons outlined in the Appeal Brief and above, Appellant submits that independent claims 1, 5, and 10 are patentably distinguishable over the cited references.

II. Claims 3, 8 and 11 are patentable over Franchi, JP ‘298, JP ‘252, and Bascom

Claims 3, 8, and 11 are rejected under 35 U.S.C. §103(a) over Franchi over JP ‘298 and JP ‘252 and further in view of U.S. Patent 263, 799 to Bascom (“Bascom”). Claim 3 depends from independent claim 1, claim 8 depends from independent claim 5, and claim 11 depends from independent claim 10. Thus, for the reasons set forth in the Appeal Brief and above, the claims are patentable over the above cited art for at least the reasons given with respect to the independent claims.

In response, at pages 1-6, the Office Action responds by stating, “Bascom clearly teaches a spiral link basked being made of metal and most significantly stainless steel, which has great advantage such as rigidity when carrying heavy loads. Therefore, it would have been obvious to one of ordinary skill to modify the belt of Franchi to include stainless as taught by

Bascom.” However, as amply explained above and in the Appeal Brief, an ordinarily skilled artisan would be discouraged from incorporating stainless steel into Franchi’s multispiral fabric.

Additionally, in order to obtain the allegedly advantageous rigidity, Bascom requires the insertion of flat metal cross direction strips. See Bascom at column 1, lines 48 to 58, Figures 1-2, reference no. 4. Such construction would add even more weight to Franchi’s belt. Thus, Bascom’s solution, identified by the Examiner, would be still more disadvantageous in Franchi’s teaching. Thus, not only is there no reason to combine Franchi with, inter alia Bascom, but the teachings of Franchi and Bascom actively discredit and teach away from such a combination. Accordingly, we urge that claims 3, 8, and 11 are patentable over Franchi in view of JP ‘298, JP ‘252, and further in view of Bascom.

III. Claims 7, 9 and 12 are patentable over Franchi, JP ‘298, JP ‘252 and Lefferts

Claims 7, 9 and 12 are rejected under 35 U.S.C. § 103(a) over Franchi in view of JP’298, JP ‘252 and further in view of U.S. Patent no. 5,514,546 to Lefferts (“Lefferts”). Claim 7 depends from independent claim 1, claim 9 depends from independent claim 5, and claim 12 depends from independent claim 10. Thus, for the reasons set forth in the appeal brief and above, the claims are patentable over the above cited art for at least the reasons given with respect to the independent claims.

First, the Examiner states that Lefferts was cited to show a spiral base belt being made from metal. However, for the reasons amply given above with respect to the independent claims, Franchi teaches away from any such combination. The Examiner also alleges at page 6 of the Answer that Leffert “clearly disclose the filler means for reduced air permeability for a small production cost.” However, Franchi states at column 1, lines 37-44 that one of the problems with felt or conventional fabrics, over and above their weight, is that “**not being very**

permeable, felt or conventional fabrics not only **impaired dispersion of steam** issuing from the cardboard but also called for **coating the cardboard with a relatively large amount of glue.**”


Thus the reason given by the Examiner, reduced air impermeability, is considered a problem by Franchi, and hence an ordinarily skilled artisan would be discouraged from reducing the air permeability of its fabric. Thus Franchi discredits turning to the teachings of Lefferts for the very reasons the Examiner gives. Accordingly, Appellant urges that claims 7, 9 and 12 are patentable over Franchi, JP ‘298, JP ‘252 and Leffert for the reasons given above. Accordingly, Appellant urges a reversal of the rejections.

CONCLUSION

For the reasons discussed above, claims 1, 3, 5 and 7-12 are patentable. It is, therefore, respectfully submitted that the Examiner erred in rejecting claims 1, 3, 5 and 7-12, and Appellant requests a reversal of these rejections by this Honorable Board. As a result, the allowance of this application should be mandated.

Respectfully submitted,

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APPENDIX I

CLAIMS ON APPEAL

1. (Previously Presented) A belt for use on a corrugator machine in the manufacture of corrugated packaging board, said belt comprising:

an endless spiral-link base, said base defining a top surface and a bottom surface and including a plurality of metal spirals, each spiral defining an internal space, wherein the spirals are interconnected by a series of parallel pintles extending through the internal spaces of adjacent spirals,

wherein the belt is a singlefacer belt.

2. (Cancelled)

3. (Previously Presented) The belt of claim 1, wherein the spiral-link base comprises stainless steel.

4. (Cancelled)

5. (Previously Presented) A belt for use on a corrugator machine in the manufacture of corrugated packaging board, said belt comprising:

an endless spiral-link base, said base defining a top surface and a bottom surface and including a plurality of metal spirals, each spiral defining an internal space, wherein the spirals are interconnected by a series of parallel pintles extending through the internal spaces of adjacent spirals,

wherein the belt is a doublebacker belt.

6. (Cancelled)

7. (Original) The belt of claim 1, further comprising filler means disposed within said spirals.

8. (Previously Presented) The belt of claim 5, wherein the spiral-link base comprises stainless steel.

9. (Previously Presented) The belt of claim 5, further comprising filler means disposed within said spirals.

10. (Previously Presented) A singlefacer or doublebacker belt comprising:
an endless spiral-link base including a plurality of metal spirals interconnected by a series of parallel pintles extending through internal spaces defined by adjacent spirals.

11. (Previously Presented) The belt of claim 10, wherein the spiral-link base comprises stainless steel.

12. (Previously Presented) The belt of claim 10, further comprising filler means disposed within said spirals.

APPENDIX II

EVIDENCE

None

APPENDIX III
RELATED PROCEEDINGS

None